1. What is the term for the idea that geologic processes occurring now on Earth are much the same as those that occurred long ago?

A. catastrophism

B. uniformitarianism

C. adaptive radiation

D. convergent evolution

2. What is the term for biological processes by which the kinds of organisms on Earth change over time?

F. evolution

G. superposition

H. biogeography

J. uniformitarianism

3. When the internal structures of two species are very similar, what can be inferred about both species?

A. They share similar environments.

B. They evolved in similar environments.

C. They have similar external structures.

D. They evolved from a common ancestor.

**INTERPRETING GRAPHICS:** The graph below shows the variation in average beak size in a group of finches in the Galapagos Islands over time. These finches eat mostly seeds. The years 1977, 1980, and 1982 were dry years; 1984 was a wet year. Use the graph to answer the question that follows.

4. Beak size in these finches is correlated to the size of seeds they can eat. What can be inferred from the graph?

F. In wet years, the finches that survive are mostly those that can eat larger seeds.

G. In dry years, the finches that survive are mostly those that can eat larger seeds.

H. In all years, the finches that survive are mostly those that can eat larger seeds.

J. In all years, the finches that survive are mostly those that can eat smaller seeds.

**INTERPRETING GRAPHICS:** The diagram below shows possible evolutionary relationships between some organisms. Use the diagram to answer the question that follows.

5. What does the diagram imply about warbler finches and armadillos?

A. They are unrelated.

B. They are equally related to glyptodonts.

C. They share a common ancestor.

D. They did not evolve from older forms of life.

6. What is the term for the total genetic information in a population?

F. Gene pool

G. allele frequency

H. distribution of traits

J. phenotype frequency

7. How do mutations affect genetic equilibrium?

A. Mutations cause emigration.

B. Mutations cause immigration.

C. Mutations introduce new alleles.

D. Mutations maintain genotype frequency.

8. Industrial melanism could be considered a special case of which of the following?

F. embryological adaptation

G. mimicry

H. physiological adaptation

J. structural adaptation

9. Which sets of structures are homologous?

A. a butterfly’s wing and a bat’s wing

B. a moth’s eyes and a cow’s eyes

C. a beetle’s leg and a horse’s leg

D. a whale’s flipper and a bird’s wing

10. Which is not an example of a morphological adaptation>?

F. Cytochrome c is similar in monkeys and humans.

G. Butterflies evolve similar color patterns.

H. A harmless species of snake resembles a harmful species.

J. Young birds have adaptations for blending into the environment.

FILL IN THE BLANK

11. What term describes one species evolving over millions of years to become two different but closely related species? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. What term describes a species evolving into a new species without a physical barrier? \_\_\_\_\_\_\_\_\_\_\_

13. What do we call the random changes in gene frequency found in a small population? \_\_\_\_\_\_\_\_\_\_\_\_

14. What is the term for anatomical parts that have a reduced function in an organism? \_\_\_\_\_\_\_\_\_\_\_\_\_

15. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the measure of the relative contribution an individual trait makes to the next generation.

16. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ occurs when two or more species evolve adaptations to resemble each other.

17. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ was used to produce purebred Chihuahuas and cocker spaniels.

18. In \_\_\_\_\_\_\_\_\_\_\_\_\_\_ selection, individuals with either extreme variation of a trait have greater fitness than individuals with the average form of the trait.

19. When two or more species have evolved adaptations to each other’s influence, the situation is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

20. When species arise as a result of geographic isolation, it is termed \_\_\_\_\_\_\_\_\_\_\_\_\_ speciation.

SHORT RESPONSE

21. The human body has a tailbone but no tail. It also has an organ called the appendix, which is attached to the intestines but does not serve a function in digestion. How would an evolutionary biologist explain the presence of these structures in the human body?

22. Sea stars eat clams by pulling apart the two halves of a clam’s shell. Discuss how this could result in directional selection of clam muscle size.

23. What can be concluded from the fact that many insects no longer are resistant to certain pesticides?

24. What advantages might bipedalism have conferred on early hominids?

EXTENDED RESPONSE

25. Using information we have discussed in this unit, summarize the key points in the theory of evolution, and provide evidence that supports the theory.